DOCUMENT RESUME

ED 418 547 EC 306 356

TITLE	LD Assessment and Decision Making: Technical Assistance Guide for Learning Disability.
INSTITUTION	Iowa State Dept. of Education, Des Moines. Bureau of Special Education.
PUB DATE	1997-03-00
NOTE	53p.
AVAILABLE FROM	Iowa Department of Education, Grimes State Office Building, Des Moines, IA 50319-0146.
PUB TYPE	Guides - Non-Classroom (055)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	Decision Making; *Definitions; *Disability Identification; Educational Legislation; Educational Practices; Elementary Secondary Education; Eligibility; Federal Regulation; *Learning Disabilities; Regular and Special Education Relationship; *State Standards; *Student Evaluation; Technical Assistance
IDENTIFIERS	*Iowa; Multidisciplinary Teams

ABSTRACT

This guide presents practice recommendations developed by a special Iowa study group as a result of change in 1995 from state-developed definition and eligibility criteria for learning disability to the definition and evaluation requirements of federal regulations. The recommendations focus on preferred practices in assessment, evaluation, and identification of students with learning disabilities as well as decision making practices of multidisciplinary teams. Part 1 of the guide addresses the issue of definition, specifies the study group's statements about learning disability, and describes the components of definition that must be considered when identifying an individual as having a learning disability. Part 2 describes the overall identification process in the schools, specifically addressing the interrelated phases of general education intervention and the full and individual evaluation. Part 3 discusses general assessment standards and the practical matter of preferred practices in the assessment of intelligence and the use of discrepancy criteria. The fourth part integrates this information by describing the specific eligibility criteria for learning disability and corresponding assessment and documentation. Part 5 examines decision making and intervention planning. (Contains 83 references.) (DB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 418 547

LD

Assessment and Decision Making

Technical Assistance Guide for Learning Disability

Bruett

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
✓ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Learning Disability Study Group
Iowa Department of Education
Bureau of Special Education
March 1997

EC 306 356

BEST COPY AVAILABLE

Assessment and Decision Making

Technical Assistance Guide for Learning Disability

Learning Disability Study Group
Bureau of Special Education
Iowa Department of Education
February 1997

State of Iowa
DEPARTMENT OF EDUCATION
Grimes State Office Building
Des Moines, Iowa 50319-0146

STATE BOARD OF EDUCATION

Corine A. Hadley, President, Newton
C. W. Callison, Vice President, Burlington
Susan Clouser, Johnston
Gregory A. Forristall, Macedonia
Sally J. Frudden, Charles City
Charlene Fulton, Cherokee
Gregory D. McClain, Cedar Falls
Gene Vincent, Carroll
Kay E. Wagner, Bettendorf

ADMINISTRATION

Ted Stilwill, Director and Executive Officer of the State Board of Education
Dwight Carlson, Assistant to the Director
Gail Sullivan, Chief of Policy and Planning

Division of Elementary and Secondary Education

Judy Jeffrey, Administrator
Jeananne Hagen, Chief, Bureau of Special Education

It is the policy of the Iowa Department of Education not to discriminate on the basis of race, color, national origin, gender, disability, religion, creed, age or marital status in its programs or employment practices. If you have questions or grievances related to this policy, please contact Deb Van Gorp, Chief, Bureau of Administration, Instruction and School Improvement, Grimes State Office Building, Des Moines, Iowa 50319, (515) 281-5811.

Table of Contents

Acknowledgments i

Preface ii

Part I – An Educational Perspective 1
- Definition 1
- Problems in Applying Definition Components 3
- Points of Agreement 5
- Definition for the Educational System 5
- Components of Operational Model 7

Part II – The Identification Process 11
- General Education Interventions 11
- Full and Individual Evaluation 14

Part III – Assessment and Decision Making 17
- Assessment Standards 17
- Comprehensive Assessment Methods 18
- Preferred Practices in Intellectual Assessment 19
- Preferred Practices in Using Discrepancy Criteria 20

Part IV – Determining and Documenting Eligibility 23
- Unexpected and Unexplained Low Achievement 23
- Achievement-Ability Discrepancy 24
- Significant Difficulties in One or More of the Basic Psychological Processes 26
- Exclusionary Considerations 26
- Conclusion 28

Part V – Entitlement 29
- Decision 29
- Intervention Planning 29

Part VI – Appendices 31
- Appendix A – Use of 2.0 Times Discrepant Criteria 31
- Appendix B – Standard Score Discrepancy Procedures 33
- Appendix C – Assessment Tools for Achievement Areas 37
- Appendix D – Assessment and Documentation Checklist for Learning Disability Eligibility 43

References 47

Additional Readings 49

Acknowledgments

Study Group Members

Karen Beeler
Special Education Teacher
Interstate 35 Community School District

Christine Clogg
Special Education Teacher
Des Moines Independent School District

Lisa Johnson
Special Education Teacher
Dubuque Community School District

Veralee Owens
Special Education Teacher
Sioux City Community School District

Austin Mueller
Coordinator, Special Education
Cedar Rapids Community School District

Sharon Galloway
Learning Disabilities Association – Iowa

Linda Appleby
Parent-Educator Connection
Western Hills Area Education Agency 12

Joyce Stewart
Occupational Therapist
Grant Wood Area Education Agency 10

James O'Hare
Coordinator, Special Education
Mississippi Bend Area Education Agency 9

Kenneth Kavale
Department of Special Education
University of Iowa

Richard Owens
Department of Special Education
Morningside College

Editors

Mary Bartlow
Publications Secretary
Bureau of Special Education
Iowa Department of Education

Steven Maurer
Consultant, Severely & Profoundly Disabled
Bureau of Special Education
Iowa Department of Education

David Tilly
Consultant, Special Education Research
Bureau of Special Education
Iowa Department of Education

Writer

Teresa Sagen
Consultant, Special Education
Grant Wood Area Education Agency 10

Facilitator

Micheal Thompson
Iowa Mediation Services

Advisor

Cecil Mercer, Ph.D.
Department of Special Education
University of Florida
Gainesville, FL

Department Lead & Editor

Jim Reese
Consultant, Learning Disabilities
Bureau of Special Education
Iowa Department of Education

Preface

In adopting new administrative rules for special education in 1995, Iowa changed from a state-developed definition and eligibility criteria for learning disability to the definition and additional evaluation requirements of learning disability of the **Code of Federal Regulations**, Title 34—Education, Part 300—Assistance to States for the Education of Children with Learning Disabilities. This change in the state's administrative rules prompted the Iowa Department of Education to organize a representative group of individuals — the Learning Disabilities Study Group — to develop preferred practice recommendations for the identification of students with learning disabilities. The Study Group was (1) to provide practical guidelines on preferred practices in assessment, evaluation, and identification of children and youth who have a learning disability and require special education and (2) to identify assessment practices that enable multidisciplinary teams to make sound decisions with respect to interventions and services. Ultimately, the Study Group was to prepare a document that would serve as a technical assistance guide to the area education agencies and local school districts.

The Study Group's work was accomplished through a series of meetings conducted from October 1995 through July 1996. A professional mediator facilitated the meetings of the Study Group, and an extensive set of reference materials on learning disability, assessment practices and identification were used by members throughout the process. An individual was employed as the writer of the guide; this individual attended all Study Group meetings and was responsible for translating the group's deliberations and decisions into text for the technical assistance guide.

Since the field has many theoretical and conceptual orientations rather than one universally accepted orientation that guides identification and intervention, the Learning Disabilities Study Group approached the task of preferred practices in identification from an educational perspective. What does it mean to approach the task from an educational perspective? It means that the group considered a broad array of information about learning disabilities, its definition and identification practices. It means that the group did not debate whether the condition of learning disability exists; the group began with the premise that it does. It means the group didn't approach the task from a particular theoretical or conceptual orientation; the group gleaned as much practical and functional information from as many different orientations and sources as possible. It means the group did not attempt to resolve all unanswered questions within the field regarding definition and identification, nor did the group see as its purpose the development of identification practices that would solve the various research dilemmas that exist within the field. It means the group's decision making regarding preferred identification practices was significantly influenced by current federal and state requirements that educational agencies must follow in the identification of individuals who have disabilities and require special education, generally accepted beliefs about learning disability, and the advantages and limitations of the technology of assessment.

This document presents the Study Group's recommendations regarding preferred practices in the identification of learning disabilities. The guide is not intended to be a diagnostic "cookbook." Rather, it is presented as a resource guide for area education agencies and field practitioners. The guide presents information useful to the development, implementation and refinement of assessment and identification procedures and practices for students who require special education as a result of a learning disability.

The first part of the guide, *An Educational Perspective*, (1) addresses the issue of definition, (2) identifies the Study Group's agreed upon statements about learning disability, and (3) describes the components of definition that must be considered when identifying an individual as having a learning disability. The second part, *The Identification Process*, describes the overall identification process that is employed in the schools, specifically addressing the interrelated phases of general education intervention and the full and individual evaluation. Part III, *Assessment and Decision-Making*, discusses general assessment standards and the practical matter of preferred practices in the assessment of intelligence and the use of discrepancy criteria. The fourth part, *Determining and Documenting Eligibility*, integrates the information from the first three sections by describing the specific eligibility criteria for learning disability and corresponding assessment and documentation. Part V, Entitlement, overviews decision making and intervention planning.

The Study Group realizes that its recommendations are subject to review and comment by a broad array of professionals who may ultimately be responsible for implementing these recommendations. The Study Group also recognizes that the Department of Education in conjunction with the AEA Directors of Special Education will use these recommendations and the feedback from the review process to finalize specific recommendations for the educational community regarding the identification of students with learning disabilities. With these points in mind, the Study Group wants potential reviewers and the Department to recognize that the recommendations reflect the Group's collective thinking using a broad base of information from a variety of sources. This means that the recommendations do not reflect any one member's beliefs or orientation, nor do they represent one theoretical or clinical orientation to learning disability. It also means that the recommendations reflect a general consensus of group members achieved through discussion, debate and compromise.

Part I — An Educational Perspective

Depending on where you live in the United States, anywhere from one-third to one-half of the students receiving special education are reported to have a learning disability (U. S. Department of Education, 1994). The U. S. Department of Education (1994) reported increasing numbers of individuals identified as learning disabled, which rose from less than 2% of the total school population in 1976-77 to over 5% in 1992-93. With increasing numbers of students identified as learning disabled and the variation among states, confusion about learning disability understandably continues. Adding to the confusion is the continuing debate within the field of learning disabilities regarding definition, theoretical perspective, conceptual framework, and the practical and functional application of identification criteria. While there are various theoretical and conceptual orientations to learning disability (Kavale & Forness, 1995; Lyon et al., 1993; Feagans et al., 1991; Swanson & Keogh, 1989), none of the orientations has achieved clinical or scientific validation, nor has a single definition achieved universal support. Additionally, the technical limitations of available assessment tools and procedures further compound the problems that the learning disability field faces. In the words of Kavale, Forness, and Bender (1987), it is a "field fraught with controversy, even in terms of its most basic diagnostic criteria and remedial methods" (p. viii).

Despite the continuing controversy and the various limitations, educators are faced with the task of identifying individuals who, because of the nature and severity of their learning problems, require special education in order to receive an appropriate education. Some of these individuals require special education because of the nature and severity of a learning disability.

Definition

Hammill (1990) reviewed eleven different conceptual definitions of learning disabilities that have been proposed in the past or that are currently in use. Although these conceptual definitions have offered different perspectives on learning disabilities, Hammill (1990), in his analysis of definitions, identified five elements common to most of the definitions: (a) underachievement (uneven patterns of development or intraindividual differences), (b) achievement-potential discrepancy, (c) etiologic factors, (d) exclusionary factors, and (e) dysfunction in one or more of the psychological processes. Of the definitions that have emerged in the field, Myers and Hammill (1990) indicated that there are two definitions of learning disabilities that are most widely accepted: the 1977 U.S. Office of Education definition and the revised definition of the National Joint Committee on Learning Disabilities (1989).

- *1977 U. S. Office of Education (USOE) Definition*

The U. S. Office of Education definition (federal definition) of learning disabilities appears to be the most widely accepted definition since it is the definition adopted by most states and is the definition under which federal programs are administered (Hallahan, Kaufman, & Lloyd, 1985):

> The term "specific learning disability" means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfectability to listen, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include children who have learning disabilities which are primarily the result of

visual, hearing, or motor handicaps, or mental retardation, or emotional disturbance, or of environmental, cultural, or economic disadvantage (USOE Federal Register, 1977, p. 65083).

In an effort to assist in the identification of students with learning disabilities, a set of operational criteria was included in addition to the definition in the *Federal Register* (1977). The component of severe discrepancy between achievement and ability was added in an attempt to provide guidance in operationalizing the definition; however, no specific guidelines were offered to determine the discrepancy. Also, it was in this set of operational criteria that spelling was eliminated as a separate area and was subsumed under the area of writing. No criteria were offered for operationalizing basic psychological processes.

• *National Joint Committee on Learning Disabilities (NJCLD) Definition of Learning Disabilities (LD)*

In 1981, The National Joint Committee on Learning Disabilities, made up of eight organizations interested in the field of learning disabilities, was formed to discuss a possible alternative to the USOE definition. The Committee's intention was to address the discrepancies in the USOE definition and the operational criteria concerning the vagueness of "basic psychological processes," age span, and the exclusion clause. The result of these discussions was an alternative definition for learning disabilities that was revised in 1988:

> Learning disabilities is a general term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to the individual, presumed to be due to central nervous system dysfunction, and may occur across the life span. Problems in self-regulatory behaviors, social perception, and social interaction may exist with learning disabilities but do not by themselves constitute a learning disability. Although learning disabilities may occur concomitantly with other handicapping conditions (for example, sensory impairment, mental retardation, serious emotional disturbance) or with extrinsic influences (such as cultural differences, insufficient or inappropriate instruction), they are not the result of those conditions or influences (National Joint Committee on Learning Disabilities, 1994, p.65-66).

Hammill (1990) summarized the NJCLD's proposal to create an alternative definition as one which would "(a) reinforce the idea that learning disabilities could exist at all ages, (b) delete the controversial phrase *basic psychological processes*, (c) draw a distinction between learning disabilities and learning problems, and (d) make clear that the 'exclusion clause' did not rule out the coexistence of learning disabilities and other handicapping conditions" (p.78).

Shaw et al. (1995), more recently, have proposed the NJCLD definition as an alternative to the USOE definition and have offered a model for operationalizing the NJCLD definition. The model, originally proposed by Brinckerhoff et al. (1993), includes four levels on which to determine if a learning disability exists: (a) Level I (Intraindividual Discrepancy), which involves the identification of a significant difficulty in listening, speaking, reading, writing, reasoning, math, and/or content area and identifying strengths in several other skill areas; (b) Level II (Discrepancy Intrinsic to the Individual) involving the "determination of central nervous system dysfunction or specification of deficits in information processing" (e.g. memory, learning efficiency, organization); (c) Level III (Related Considerations) such as psychosocial skills, physical abilities, and sensory abilities which may coexist with a learning disability but are not primary indicators of a learning disability; (d) Level IV (Alternative Explanations of Learning Difficulty) which addresses "exclusions or alternative explanations for a learning difficulty." Tomlin & Mather (1996) suggest that this model puts us "back

on track" and that "such an interrelated processing model is representative of our belief that definitive etiologies underlie learning disabilities." They further state that "the attention to these relationships would revitalize the diagnostic process, raising it once again to a level beyond the calculating of numbers and the reporting of test scores" (p. 221).

Problems in Applying Definition Components

- *Severe Discrepancy*

Since the requirement of severe discrepancy between achievement and ability was introduced by the U.S. Office of Education (1977) as an operational guideline for the identification of a learning disability, an increasing number of states have used a discrepancy model for identification purposes. Use of the discrepancy model has received mixed reviews in the learning disability literature.

Some professionals propose that, because of the increased reliance on a discrepancy between achievement and ability, learning disability has become synonymous with the discrepancy component (Mather & Roberts, 1994). Shaw et al. (1995) summarized the major concerns surrounding the use of discrepancy models:

(a) The variations in discrepancy formulas from state to state have resulted in inconsistencies in who is considered learning disabled.

(b) The use of discrepancy formulas does not allow for professional and informed clinical judgment.

(c) Discrepancy models focus on learning failure and deficits, requiring students to "fall significantly below their predicted performance potential...(p. 588)" before they can be identified for services.

(d) Discrepancy formulas do not address "the full scope of accepted conceptual definition of LD" (p. 588).

Other professionals in the field have proposed that the discrepancy requirement "only provides a common 'starting point' for more refined diagnostic efforts" (Keogh, 1988, p. 233) and that the discrepancy concept is a "legitimate part of LD" but is not sufficient in itself to identify a student with a learning disability (Kavale, 1987).

Mercer (1995) and Shaw et al. (1995) have proposed that an alternative to the commonly used discrepancy models is to redefine discrepancy and assess discrepancies among academic skills and among cognitive skills. By assessing intraindividual differences, the focus on learning failure is reduced while emphasizing the identification of both strengths and weaknesses among academic and cognitive skills.

• *Intelligence Testing*

Related to the issues surrounding discrepancy is the issue of using IQ measures in making decisions about individual children. Meltzer (1994) reported that "IQ tests and other product-oriented measures have been the cornerstone for the diagnosis of learning disabilities" despite the increasing criticism of these measures (p. 580).

Concerns associated with the reliance, and sometimes overreliance, on IQ measures in determining overall ability have increased. One concern has been that IQ measures represent static assessment which treats IQ as a trait rather than as a score (Meltzer, 1994; Adelman & Taylor, 1993). IQ tests emphasize the end product of learning and ignore the strategies that students use to approach learning tasks. Furthermore, IQ measures have limited application to instructional planning and do not necessarily address the needs of students in the classroom environment (Morison et al., 1996; Meltzer, 1994).

There appears to be growing consensus that alternative and multiple measures of student ability should be utilized, and that there is a need to reevaluate the use of IQ measures and standardized assessments as the only determinants for identification of a learning disability. Additionally, assessment practices are needed which take into account how the student learns in authentic environments rather than limiting assessment to an isolated, one-time event, and provide relevant information for teaching and intervention.

• *Processing Deficits*

While the federal definition refers to disorders in the "basic psychological processes" and the NJCLD definition refers to disorders that are "intrinsic to the individual and presumed to be due to central nervous system dysfunction," historically there has been little agreement within the field of learning disabilities to the practical application of these constructs in the identification process. There are many reasons for this practical failure. Psychological processes are hypothetical constructs that lack sufficient construct validity (Kavale & Forness, 199??), and there is little agreement on which processes are essential to learning and should be assessed. The development and refinement of psychometric tools has failed to keep pace with the theoretical developments in cognitive processing, and there are few valid and reliable assessment tools available (Shaw et al., 1995; Chalfant, 1989). Professionals from a broad range of disciplinary backgrounds (e.g., psychology, education, neurology, social work, occupational and physical therapy, psychiatry, ophthalmology) have brought different perspectives and solutions to the field of learning disability. While this breadth of contribution has enriched the field, the diversity of contribution has also contributed to the field's failure to achieve consensus on definition, identification, diagnostic criteria, assessment practices, and intervention (Lyon et. al., 1993; Keogh, 1988).

More recently, however, there has been movement to refocus attention on this dimension of the definition. Mercer (1995) has stated that "there is an emerging consensus among cognitive theorists concerning the nature of learning disabilities" (p. 18). Shaw et al. (1995) have concluded that the "practical and theoretical viability of including information processing as a criterion for diagnosing LD has improved considerably" (p. 590), and have included central nervous system dysfunction and information-processing problems in their operational interpretation of learning disability. The assessment specifics for this area – diagnostic criteria and assessment tools – are still not clearly articulated. As Shaw et al. (1995) explained: "As research on and instrumentation for pinpointing CNS dysfunction and information-processing problems continues, the descriptors used to operationalize and detail these areas will be refined" (p. 592-93).

Points of Agreement

In order to better understand and implement an operational model for learning disability identification, it is important to establish some common points of agreement about learning disability. Despite the controversy in the learning disability field, the following are generally accepted points of agreement concerning learning disability and should be considered in operationalizing the definition:

- Learning disability can be differentiated from other disabilities.
- Many students experience learning problems or learning failures, but not all of these are the result of a learning disability.
- Operational criteria can be delineated and reliably applied to identify a learning disability.
- Persons with a primary disability diagnosis of learning disability have intellectual ability in the average to above average range.
- Learning disability is unexpected or unpredicted learning failure in language, reading, writing, or mathematics.
- Learning disability is intrinsic to the individual as demonstrated by deficits in one or more of the basic cognitive processes essential to learning.
- Severe discrepancy between expected and actual performance is only one criteria for determining a learning disability.
- Learning disability is not synonymous with underachievement.
- Consideration of data from multiple sources on multiple variables is necessary for determining a learning disability.
- Persons with a learning disability exhibit intraindividual differences across academic domains with distinguishable strengths and weaknesses.

Definition for the Educational System

In 1995, the Iowa Department of Education adopted a modified version of the federal definition of learning disability.

> *"Learning disability"* means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term does not apply to individuals who have learning problems that are primarily the result of physical or mental disabilities, behavioral disorder, or environmental, cultural, or economic disadvantage (IAC,28—41.5).

In addition to discussions and debate in the search for a widely accepted conceptual definition of learning disabilities, focus in the field of learning disabilities has been on how to operationalize definitions by determining criteria for identification and eligibility. To provide the educational community with guidance in operationalizing the learning disability definition, the Iowa Department of Education also adopted the federal regulations for operationalizing the definition.

A team may determine that an individual has a learning disability if: (1) The individual does not achieve commensurate with the individual's age and ability levels in one or more of the ability areas [oral expression; listening comprehension; written expression; basic reading skill; reading comprehension; mathematics calculation; or mathematics reasoning] when provided with learning experiences appropriate for the individual's age and ability levels. (2) The team finds that

the individual has a severe discrepancy between achievement and intellectual ability in one or more of the following areas: oral expression; listening comprehension; written expression; basic reading skill; reading comprehension; mathematics calculation; or mathematics reasoning (IAC,281—41.56(2)*a*).

The Administrative Rules further specify that "the team may not identify an individual as having a learning disability if the discrepancy between ability and achievement is primarily the result of a visual, hearing or motor impairment; a mental disability; a behavior disorder; or environmental, cultural or economic disadvantage" (IAC,281—41.56(2)*b*).

The Administrative Rules provide some direction for multidisciplinary teams in operationalizing the definition (Table 1), but many of the components of the definition are open to interpretation. Questions remain regarding how to define and determine "disorder in the basic psychological processes," "severe discrepancy between achievement and ability," and how to determine exclusions.

Table 1. Evaluating individuals with learning disabilities

281—41.56(256B,34CFR300) Evaluating individuals with learning disabilities.

41.56(1) *Additional team members.* In evaluating an individual suspected of having a learning disability, in addition to the members of the multidisciplinary team identified in 41.48(3)"*b*," the team must include:

a. The individual's general education teacher or, if the individual does not have a regular teacher, a general education teacher qualified to teach an individual of that age; or, for an individual of less than school age, an individual qualified to teach a child of that age.

b. At least one person qualified to conduct individual diagnostic evaluations of individuals, such as a school psychologist, a special education consultant, a special education teacher licensed in learning disabilities, or a speech-language pathologist.

41.56(2) *Criteria for determining the existence of a learning disability.*

a. A team may determine that an individual has a learning disability if:

(1) The individual does not achieve commensurate with the individual's age and ability levels in one or more of the ability areas listed in 41.56(2)"*a*"(2) when provided with learning experiences appropriate for the individual's age and ability levels.

(2) The team finds that the individual has a severe discrepancy between achievement and intellectual ability in one or more of the following areas: oral expression; listening comprehension; written expression; basic reading skill; reading comprehension; mathematical calculation; or mathematics reasoning.

b. The team may not identify an individual as having a learning disability if the discrepancy between ability and achievement is primarily the result of a visual, hearing or motor impairment; a mental disability; a behavior disorder; or environmental, cultural or economic disadvantage.

41.56(3) *Observation.* At least one team member other than the individual's general education teacher shall observe the individual's academic performance in the general classroom setting. In the case of an individual of less than school age or out of school, a team member shall observe the child in an environment appropriate for a child of that age.

41.56(4) *Written report.* The team shall prepare a written report of the results of the evaluation. Each team member shall certify in writing whether the report reflects the member's conclusion. If it does not reflect the member's conclusion, the team member must submit a separate statement presenting the member's conclusions. The written report shall include a statement of:

a. Whether the individual has a learning disability.

b. The basis for making the determination.

c. The relevant behavior noted during the observation of the individual.

d. The relationship of that behavior to the individual's academic functioning.

e. The educationally relevant medical findings, if any.

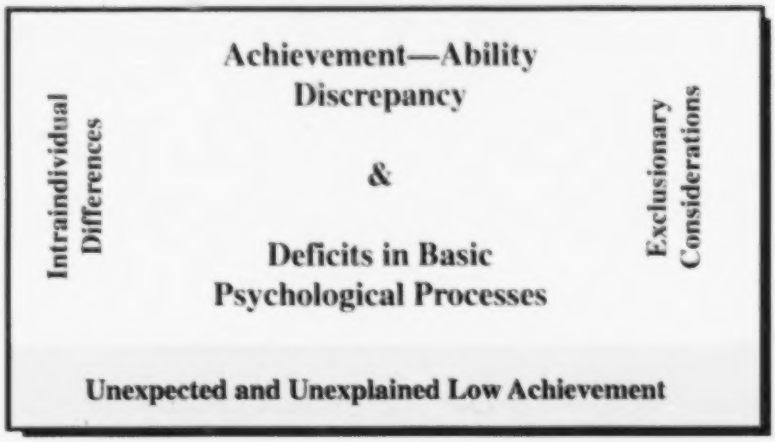
f. Whether there is a severe discrepancy between achievement and ability that is not correctable without special education and related services.

g. The determination of the team concerning the effects of environment, cultural, or economic disadvantage.

Components of Operational Model

The challenge of implementing and operationalizing a conceptual definition is not only to identify the essential components of the definition, but also to clearly define the components. Additionally, the challenge is to show the interactive nature of the various components, rather than treating each component as a separate entity. Figure 1 presents a proposed model for the identification of learning disability based upon the conceptual definition currently in effect in Iowa.

Figure 1. Components of Operational Model



The components delineated and defined are: (1) Unexpected and Unexplained Low Achievement, (2) Achievement-Ability Discrepancy, (3) Difficulties in One or More of the Basic Psychological Processes, (4) Intraindividual Differences, and (5) Exclusionary Considerations.

• *Unexpected and Unexplained Low Achievement*

Unexpected and unexplained low achievement, the first component of the model, involves the determination that the individual's achievement is not commensurate with age and ability in reading (basic skills or applications), written expression, mathematics (basic skills or applications) and/or oral language (oral expression or listening comprehension). A description of each of these achievement areas is provided in Table 2. The individual's current achievement is below his or her expected achievement and is based on the individual's chronological age, grade placement, years in school, and overall ability levels. This low achievement or problem in learning has been persistent and occurs in spite of the provision of a consistent education program and instruction appropriately matched to the individual's abilities. In determining the unexpected or unexplained low achievement, decisions are made that the low achievement is not due to such factors as excessive, persistent absences over time or insufficient and inappropriate instruction (e.g., mismatch between instruction and student learning/cognitive styles or lack of accommodation of student needs).

Low achievement is not considered to be synonymous with a learning disability. If the unexpected and unexplained low achievement persists and occurs in spite of appropriate program and instruction, further investigation is warranted by considering the additional components of the model.

BEST COPY AVAILABLE

Table 2. Areas of achievement

Reading

- **basic reading skills**
  - letter identification
  - sound/symbol correspondence
  - word identification (decoding and sight vocabulary)
  - reading fluency (rate and accuracy)
- **reading comprehension**
  - meaning from passages
  - multiple levels of meaning

Written Expression

- use of proper syntax
- mechanics of writing
- word usage and vocabulary
- sentence and paragraph structure
- theme development
- spelling

Mathematics

- **basic mathematics skills**
  - basic operations — calculation, computation
  - measurement
  - time
  - money
- **mathematical application**
  - problem solving
  - applying basic skills to routine problems and everyday situations

Oral Language

- **oral expression**
  - spoken vocabulary
  - word recall
  - sequencing
- **listening comprehension**
  - retaining and using oral information
  - understanding word meanings
  - following directions, conversations, and discussions

• *Achievement-Ability Discrepancy*

A second component of the model is Achievement-Ability Discrepancy. This component refers to severe discrepancy between achievement and overall ability in basic reading skills, reading comprehension, written expression, basic mathematics skills, mathematical application, oral expression, and/or listening comprehension (see Table 2). An important consideration is recognizing that intraindividual differences are evident with the individual showing both strengths and weakness across the achievement areas. The severe discrepancy is a necessary component but is not a sufficient criterion for determining a learning disability. It is only one criterion since the severe discrepancy alone does not indicate the presence of a learning disability, but coexists with deficiencies in one or more of the basic psychological processes.

• *Significant Processing Difficulties*

In addition to a severe discrepancy in one or more of the achievement areas, learning disability is further defined by significant difficulties in one or more of the basic psychological processes essential to learning (e.g., attention, memory, executive control or functioning, language, and concept development). Difficulties in these processes, which are intrinsic to the individual, coexist with the severe discrepancy and the data from assessing these processes provide valuable prescriptive information for intervention, but should not necessarily be viewed as the sole, specific cause of a learning disability. It is important when considering these processes to identify both strengths and weaknesses to (1) further document the presence of intraindividual differences, (2) assist in establishing overall ability level, and (3) assist in intervention development.

• *Intraindividual Differences*

Shaw et al. (1995) describe intraindividual differences or discrepancies as significant difficulty in any of the specified skill areas and successful performance in several other skill areas. Intraindividual differences may be exhibited (a) among psychological processes or developmental abilities, (b) between intellectual potential and achievement, and (c) within performance on different tasks or among academic areas (Chalfant, 1989).

Intraindividual differences should not be considered as a separate component of the model, but these differences should be considered as part of the other components. Throughout investigations into the components of unexpected or unexplained low achievement, achievement-ability discrepancy, or difficulties in the basic psychological processes, intraindividual differences should be considered. Shaw et al. (1995) state that it may well be these intraindividual differences that help distinguish a learning disability from other types of learning difficulties, although these differences alone do not necessarily indicate a learning disability.

• *Exclusionary Considerations*

An additional component considered in identification of learning disability is exclusionary factors, or in the terms of Shaw et al. (1995), "alternative explanations of learning difficulty." In determining the existence of a learning disability, the discrepancy between achievement and overall ability, and significant difficulties in the basic psychological processes are not primarily the result of a visual impairment or blindness, a hearing impairment or deafness, a motor impairment or orthopedic impairment, a mental disability, a behavior disorder, environmental or economic disadvantage, or cultural difference. Although a learning disability is not the direct or primary result of these excluded conditions or situations, a learning disability can presumably be secondary to or occur concomitantly with these conditions and circumstances.

As previously noted, the challenge is to move from a conceptual definition and operational model of learning disability to a well defined identification process. The following section, *The Identification Process*, describes general education interventions and the full and individual evaluation to clearly establish their importance and relevance to the application of the specific eligibility criteria and assessment standards for determining a learning disability.

Part II — The Identification Process

"The major practical objective of identifying problems is to correct them."
Adelman and Taylor, 1993, p. 68

The identification process is the means by which the educational system identifies those students who have educational disabilities and require special education in order to benefit from the educational experiences of school. The process has two interrelated phases: General Education Interventions and the Full and Individual Evaluation.

A description of each phase of the process follows. Each phase is discussed from the perspective of students experiencing learning problems; that is, students who demonstrate a lack of basic skill development and application, poor achievement, or a lack of academic progress. Each description begins with an overview of the phase, and includes a discussion of the relevant administrative rule and an explanation and elaboration of the phase. Since assessment is a significant element of both phases, the section concludes with a description of assessment standards.

There are several terms that are repeatedly used in discussing the phases of the identification process. These terms and their respective meanings are as follows:

(1) *assessment* – "process of collecting data for the purpose of [1] specifying and verifying problems, and [2] making decisions about students" (Salvia & Ysseldyke, 1991, p. 3); "process of gathering and analyzing information in order to make instructional, administrative, and/or guidance decisions about or for individuals" (Wallace, Larsen, & Elksnin, 1992, p. 2)

(2) *intervention* – specific intentional and planned actions designed to meet the unique needs of an individual; includes direct actions to increase individual's competence, skill and performance; also, includes environmental or instructional modifications designed to facilitate an individual's performance and acquisition of skills; intervention does not equate with a program or placement decision (Iowa Directors of Special Education, 1996)

(3) *professional judgment* – application of high standards based on research and informed practice that are established by the profession (Katz, 1984)

General Education Interventions

"There are three [sic] main purposes of instructional assessment. One purpose is to identify the areas of instructional need; this is the ***direction*** *of instruction. The second is to determine the skills and sequence of skills to be taught; this is* ***starting point*** *of instruction. The third is to ascertain* ***how to*** *deliver instruction. The fourth is to determine whether instruction is succeeding; this permits* ***correction*** *of instruction."*
Lloyd and Blandford, 1991, p. 46

In discussing intervention for students experiencing learning problems, Adelman and Taylor (1993) state that "the principle of least intervention needed" should be followed. Applying this principle, they propose that intervention efforts should first consider whether there is an appropriate match between the learner and the environment, and that "general, enriched and least disruptive solutions" should be tried before embarking on remedial instruction or specialized treatments and settings. Additionally, they stress that simpler explanations for learning problems should be considered before assuming there is a disability or disorder intrinsic to the learner, and

that the pursuit of a disability or disorder should occur only after "simpler explanations have been systematically ruled out."

General education interventions reflect this orientation to intervening with students who experience learning problems in school. The emphasis on general education interventions also recognizes that not all students who experience learning problems have disabilities or require special education, acknowledges that teachers do intervene with students who are experiencing difficulty in school, and reinforces the belief that early response once a persistent learning problem is detected is preferable to waiting for the problem to become so severe that a comprehensive evaluation is initiated to consider the possible need for special education.

• *Iowa's Administrative Rules*

Iowa's administrative rules identify the purpose of general education interventions and describe the basic standards for general education interventions as follows:

Purpose: "to resolve the presenting problem or behaviors of concern in the general education environment prior to conducting a full and individual evaluation" (IAC,281—41.48(2)).

Standards: "General education interventions shall include teacher consultation with special education support and instructional personnel working collaboratively to improve an individual's educational performance. The activities shall be documented and shall include measurable and goal-directed attempts to resolve the presenting problem or behaviors of concern, communication with parents, collection of data related to the presenting problem or behaviors of concern, intervention design and implementation, and systematic progress monitoring to measure effects of interventions" (IAC,281—41.48(2)*b*).

• *Explanation and Elaboration*

Following are explanations and further elaborations:

(1) The nature and severity of educational problems vary from student to student. Some problems are minor in degree and require limited effort, time and resources to resolve. In these circumstances, the teacher and parent may be able to successfully address a student's problem within a short period of time. Or, the teacher may be able to resolve the problem through informal consultation with another teacher or professional. Other problems are more complex and severe and require more intense intervention efforts. In such circumstances, the teacher and parents access the assistance and support of other educators in order to address the presenting problems or behaviors of concern of a particular student. It is in these circumstances — more complex, more severe, more difficult problems — that general education interventions come into play.

(2) General education interventions are a collaborative effort among the student, parents and educators. Active parent participation in general education interventions is a critical ingredient. Parents are invited to participate and are included in general education interventions efforts and are informed at all decision making points. This cooperative effort includes general education and special education personnel working together to meet the educational needs of students experiencing learning, behavioral or adjustment problems.

(3) General education interventions are solution-focused. As stated in the purpose, resolution of student problems or concerns in the general education environment is the focus. Also in this regard, general education interventions are preemptive efforts intended to prevent problems from becoming established and more resistant to change.

(4) General education interventions are data-driven decision making efforts. The presenting problems or behaviors of concern need to be described in objective, measurable terms. Baseline data on the problem or behavior is collected and documented. Ongoing, systematic data gathering occurs to monitor progress and evaluate the impact of the intervention. Decisions about changes in the presenting problem or behavior of concern, and evaluation of the effects of an intervention are based on data.

(5) The data and information gathered to help define and clarify the nature of the problem needs to reflect multiple environments, multiple sources of information, and multiple types of assessments. Assessment procedures also need to be selected based on their relevance to the nature of the specific presenting problems or behaviors of concern and their ability to yield information that will help define and clarify the nature of the problem. Setting variables need to be considered as possibly influencing or contributing to the problem or concern. The school and home environment, the classroom environment, the curriculum, and classroom instructional methods, as well as student characteristics, need to be considered as appropriate to the specific problem.

(6) General education interventions are based on a formal systematic written plan that is designed to accommodate or solve a specific student's presenting problem or behavior of concern. The written plan describes implementation, progress monitoring and evaluation procedures.

• *Value of General Education Interventions to the Full and Individual Evaluation*

If an individual's learning problems are unresponsive to well-designed and well-implemented general education interventions, or if the learning problem requires the continued provision of a substantial effort that is typically not expected of the general education program, then the multidisciplinary team will decide to pursue a full and individual evaluation, the next phase of the identification process. When implemented with integrity, general education interventions facilitate the full and individual evaluation by:

(1) providing baseline data about the individual's primary learning problem(s) and strengths;
(2) providing information about educational interventions that have not resolved the learning problem or that have proven to be useful in improving the individual's skills and performance;
(3) providing data that is necessary to a comprehensive full and individual evaluation; and,
(4) providing data that directs the development of assessment questions that guide the full and individual evaluation.

Full and Individual Evaluation

"Evaluation is not the same thing as testing. Testing is simply a procedure that is used to sample behavior. Evaluation is a thoughtful process involving the comparison of the way things are to the way they should be."

Howell, Fox, & Morehead, 1993, p. 71

The second phase of the identification process, a full and individual evaluation, must be completed before special education and related services can be provided to an individual. The data generated during this phase of the identification process serves two purposes: (1) to generate information that will guide the development and implementation of educational interventions and (2) to determine whether the individual is entitled to receive special education. *Entitlement* in this context refers to the requirement that the individual is eligible for and in need of special education. *Eligibility* for special education refers to the requirement that the individual has a disability. *Need* for special education refers to the requirement that the individual requires special education in order to receive an appropriate education.

The full and individual evaluation does not represent an interruption of the general education intervention phase of the identification process. Rather, the evaluation represents a more intense and broader approach to the presenting learning problem. General education interventions can continue during the full and individual evaluation. Since interventions include assessment for the purpose of defining the learning problem and of monitoring the impact of efforts specifically designed to address the learning problem, continued use of general education interventions or the use of additional or redesigned interventions can be a means for gathering assessment data critical to the decision making process. The relationship between general education interventions and the full and individual evaluation is not like the common "ON-OFF" electrical switch for lighting, but rather is best represented by the variable electrical switch that allows a person to gradually adjust the amount of light. The full and individual evaluation should be considered as a natural extension or progression of general education interventions and not as a separate, disconnected event of unrelated information-gathering.

• *Iowa's Administrative Rules*

Iowa's administrative rules identify the purpose of the full and individual evaluation and describe the basic standards for the full and individual evaluation as follows:

Purpose: "to determine the educational interventions that are required to resolve the presenting problem, behaviors of concern, or suspected disability, including whether the educational interventions are special education" (IAC,281—41.48(3)).

Standards: "A full and individual evaluation shall include:
(1) an objective definition of the presenting problem, behaviors of concern, or suspected disability
(2) analysis of existing information about the individual, including the results of general education interventions
(3) identification of the individual's strengths or areas of competence relevant to the presenting problem, behaviors of concern, or suspected disability
(4) collection of additional information needed to design interventions intended to resolve the presenting problem, behaviors of concern, or suspected disability, including, if

appropriate, assessment or evaluation of health, vision, hearing, social and emotional status, general intelligence, academic performance, communicative status, adaptive behavior, and motor abilities" (IAC,281—41.48(3)*a*).

Additionally, the full and individual evaluation must be conducted by a multidisciplinary team (IAC,281—41.48(3)*b*).

• *Explanation and Elaboration*

Following are explanations and further elaborations:

(1) The assessment activities of the full and individual evaluation need to be guided by a clear, precise description of the learning problem. Information from general education interventions should be used in defining the nature and parameters of the presenting learning problem.

(2) Screening data about sensory or health problems that may be contributing to or sustaining the learning problem should be considered by the multidisciplinary team in defining the presenting learning problem. Some, if not all, of this data may have been gathered during the general education intervention phase. If possible sensory or health concerns were not addressed during general education intervention efforts, then the multidisciplinary team should address the sensory and health areas as a part of the effort of defining the presenting learning problem.

(3) Similarly, the multidisciplinary team should confirm that the learning problem has persisted across time and consider whether the student's poor academic performance can be attributed to an inconsistent educational program or inappropriate instruction. Most, if not all, of the information necessary to address these concerns should have been gathered during the general education intervention phase. If not, the multidisciplinary team should gather such information as a part of the effort to describe the presenting learning problem.

(4) Selection of assessment tools and procedures for the full and individual evaluation should be based on the data necessary for the multidisciplinary team to understand the nature and extent of the learning problem and to design an intervention to address the learning problem. The information collected through the full and individual evaluation should include:
   - multiple sources (direct and indirect assessment, different individuals, etc.) and types of data (quantitative and qualitative),
   - address all relevant skill and performance areas, and
   - consider all relevant environmental factors.

(5) The assessment activities of the full and individual evaluation should yield information that:
   - identifies an individual's strengths as well as weaknesses, and
   - assists in determining the types of instructional modifications or accommodations the individual might require.

• *Entitlement Decision*

As this phase of the identification process comes to closure, an intervention plan will be developed and the multidisciplinary team will determine whether the individual is entitled to special education. As noted earlier, entitlement has two components: eligibility and need. The eligibility component requires the multidisciplinary team to answer "the question of whether an individual has an educational disability or not. It is a dichotomous decision. The determination of eligibility should not be equated with entitlement. The individual must be both eligible for and in need of special education in order to be entitled" (Iowa Directors of Special Education Association, January 1996, p. 4).

> "The need component of an entitlement decision answers the question of whether an individual requires special education in order to receive a free appropriate public education.....having a disability alone was not sufficient to confer special education entitlement on an individual. The individual must also need special education in order to be entitled. Educational need has been defined in many ways, but the minimum standard relates to an individual's ability to successfully pass from grade to grade. Empirically, an individual's needs can be defined operationally as a discrepancy between her/his current level of educational performance and the expectations of the individual's educational environment. Additionally, documentation of an individual's inability to benefit significantly from reasonable general education interventions or accommodations can also be used to demonstrate need for special education" (Iowa Directors of Special Education, January 1996, p. 5).

If the multidisciplinary team finds that the individual is both eligible and entitled to special education services, the team would develop and implement an individualized education program (IEP). If the team determines that the individual is eligible but is not in need of special education services, an intervention plan should still be developed and implemented (e.g. "Section 504 plan," I-PLAN) which delineates how the individual's needs are to be accommodated within the general education setting.

Throughout the identification process, multidisciplinary teams should be guided by specific assessment questions relevant to instructional planning and which provide the information needed to make decisions concerning how best to meet an individual's needs. As teams answer assessment questions and gather assessment data throughout the identification process, best practices in assessment should be considered and implemented. The following section, *Assessment and Decision Making*, provides a description and discussion of general assessment standards and practices and makes recommendations for best practice.

Part III — Assessment and Decision Making

"In spite of the deficiencies of prevailing practices, each day professionals are called upon to assess and make decisions about individuals with learning problems. Unfortunately, for now they must do so using a relatively weak knowledge base."

Adelman and Taylor, 1993, p. 95

The assessment of learning problems is not without its limitations. The technical characteristics of many of the tools and procedures used to assess learning problems have been challenged as inadequate, inappropriate or both. And, while concern continues to persist that decision making about learning problems is too subjective, research has shown that even when relatively objective assessment data are available the decisions often are subjective and not supported by the objective data.

Prevailing practices in assessing students with learning problems also have come under fire for focusing too much on the individual and neglecting the environment. Accordingly, assessment that focuses on describing the deficits within the individual and overlooks the possible mismatch between the learner and environmental variables has been criticized. Similarly, concerns have been raised about assessment practices that seem to be deficit focused rather than solution driven.

Assessment Standards

Despite the litany of technical problems with available assessment tools and procedures and the various criticisms and shortcomings of decision making about students experiencing learning problems, educators are still faced with the challenge of assessing needs and planning interventions for these students. With this challenge in mind, the following minimal standards are provided to guide the selection of assessment tools and decision making throughout the identification process.

(1) The purpose for assessment needs to be clearly articulated and understood by all individuals involved.

(2) The type of data collected must match the purpose of assessment.

(3) The amount of data collected must be sufficient to answer assessment questions in a reasonable and responsible manner.

(4) The quality of the data must be considered in the decision making process.

(5) Assessment needs to be multifaceted and include:

- multiple data sources (e.g., teachers, parent, students, other service providers familiar with the student)
- multiple types of data (e.g., qualitative and quantitative)
- multiple types of tools and procedures (see Table 3)
- multiple environments (e.g., various classrooms, home, school, community)

(6) Assessment needs to consider performance across time, not just data from a single point in time. Assessment should be viewed as an information gathering process that occurs across time rather than an isolated, time-bound event.

(7) Assessment tools and procedures need to meet generally accepted standards of technical adequacy of reliability and validity for decision making about individuals.

(8) Assessment tools and procedures need to be culturally, racially, and linguistically unbiased.

(9) The assessment process should provide prescriptive information regarding interventions and include documentation of an individual's strengths as well as weaknesses.

(10) Decision making about an individual should be based upon professional judgment that considers both quantitative and qualitative data about an individual's performance.

(11) The assessment process involves the systematic collection of meaningful, relevant information about an individual's learning problem.

(12) Assessment is a solution-focused process with the purpose of searching for answers to well-defined questions and not solely determining a condition or classification.

Table 3. Assessment Procedures

DIRECT ASSESSMENT
- Norm-referenced, standardized tests
- Criterion referenced tests
- Curriculum-based probes
- Informal inventories
- Direct observation
  - Permanent products
  - Systematic behavioral observation

INDIRECT ASSESSMENT
- Interviews
- Checklists and rating scales
- Anecdotal records

DYNAMIC ASSESSMENT

ECOLOGICAL ASSESSMENT

(13) The limitations of assessment tools and procedures, and the tentative nature of conclusions based on data from these tools and procedures need to be clearly stated and understood by all individuals involved in the assessment and decision-making process.

(14) The criteria for deficits or discrepancies vary depending on the assessment procedures and the specific questions being addressed. Different assessment methods use different units of measurement; thus the standard for a significant deficit of severe discrepancy varies across procedures.

Comprehensive Assessment Methods

Of particular importance throughout the identification process is the use of a variety of assessment methods for decision making. The National Association of School Psychologists (1994) proposed the following conceptual organization (R-I-O-T) for categorizing assessment methods which include both traditional and innovative assessment procedures:

- **Review** of records refers to the process of collecting and evaluating existing information that is relevant to assessment questions (e.g. grades, attendance records, classroom assignments, previous assessment results, and previous intervention outcomes).
- **Interview** refers to the process of direct communication with the student, family members, and professionals to collect information regarding student behavior across situations and settings.
- **Observation** refers to the process of systematically collecting information about behaviors across situations and setting by watching and recording events. Observations can focus on both student performance and the environmental variables that surround the behavior of interest.
- **Tests and ratings** refer to any standardized instrument used for obtaining a sample of behavior, typically resulting in a score. Tests may include standardized, norm-referenced

tests and standardized methods for collecting curriculum-based measurements. Ratings may include checklists and standardized rating forms completed by parents, teachers, or students.

In Part I of the document (pp. 3-4), some of the concerns, cautions, and limitations of intelligence testing and severe discrepancy between achievement and ability in the identification of learning disability were presented. Following is further discussion of the assessment of intellectual assessment and discrepancy criteria, and recommendations and considerations concerning preferred practice when making decisions based on assessment information in these two areas.

Preferred Practices in Intellectual Assessment

Reschly and Grimes (1995) proposed that best practice considerations "require careful judgments about (a) *when* and *how* intellectual assessment instruments are used; (b) the selection, administration, and interpretation of measures; and (c) prevention of misuses and misconceptions" (p. 771). In order to ensure best practices in the assessment of intellectual functioning, these authors further proposed that:

> "(1) Appropriate use requires a context that emphasizes prevention and early intervention rather than eligibility determination as the initial phase in services to students with learning and behavioral problems.
> (2) Intellectual assessment should be used when the results are directly relevant to well defined referral questions, and other available information does not address those questions.
> (3) Mandatory use of intellectual measures for all referrals, multifactored evaluations, or reevaluations is not consistent with best practices.
> (4) Intellectual assessment must be part of a multifactored approach, individualized to a child's characteristics and the referral problems.
> (5) Intellectual assessment procedures must be carefully matched to characteristics of children and youth.
> (6) Score reporting and interpretation must reflect the known limitations of tests, including technical adequacy, measurement error, and general performance ranges" (pp. 771-772).
> "(7) Interpretation of performance and decisions concerning classification must reflect consideration of overall strengths and weaknesses in intellectual performance and performance on other relevant dimensions of behavior, age, family characteristics, and cultural background" (p. 772).

Considerable attention has been focused on finding and validating alternative assessment measures that link assessment for eligibility determination and instruction. One such approach is curriculum based measurement (CBM). Morison et al. (1996) reported how a three-stage treatment validity approach (still in the pilot stages) for using CBM in making decisions about eligibility for special education and providing instructionally relevant information might be considered as an alternative to traditional assessments:

> First, CBM would be used to determine whether an individual student's level of performance and rate of growth are comparable to that of other students in the same class. Has the child's rate of learning in reading, for example, kept pace with that of others in the class? If the growth rate and performance levels lag behind peers, then a second stage involves modifying the general education learning environment to see

whether the student's learning rate can be increased. If not, the third stage would ask whether special education can effect better growth. For some period of time, the child would receive special education instruction to see whether better growth can be achieved. If so, then a positive eligibility decision would be made (p. 23).

Although approaches such as the one described are still being investigated, they do suggest that possible alternatives to the more traditional assessments in making eligibility decisions are viable. Morison et al. (1996) called for the continued reevaluation of the usefulness of IQ tests in making special education decisions and proposed that "the time is ripe to focus on identifying such testing (testing which helps match students with effective educational treatments) and instructional methods and moving them into educational practice" (p. 27).

Preferred Practices in Using Discrepancy Criteria

The discrepancy component has continued as a major focus of discussion and debate in the identification and classification of learning disability. Mercer (1995) indicated that "although procedures for operationalizing the discrepancy component are improving, many issues remain concerning the validity of discrepancy procedures" (p. 14). As a result of the discussions surrounding the discrepancy component, preferred practices have emerged in the field. Many professionals in the field of learning disability remind us that discrepancy is only one component considered in determining a learning disability and that discrepancy has limitations when used as the sole criterion for identification (Evans, 1990; Mercer, 1995; Shaw et al., 1995). **Preferred practice indicates that multidisciplinary teams involved in decision making would not rely on discrepancy alone as an indicator of a learning disability and avoid overreliance on the discrepancy model.**

Related to using multiple factors and not just discrepancy, **preferred practice for multidisciplinary teams during decision making concerning learning disability designation indicates that a score or a comparison of scores alone (quantitative data) is not sufficient**. Multidisciplinary teams should also consider qualitative data to support decision making. Since the accuracy of the discrepancy determination "ultimately rests with the quality of data used" (Mercer, 1995), teams should be cautious in their overreliance on such data and should be persistent in validating significant discrepancy with other forms of assessment, preferably within the student's learning environment.

When significant discrepancy is used in decision making, Salvia and Good (1982) indicated three elements to the definition of significant discrepancy: "(1) reliable discrepancy, (2) unusual discrepancy, and (3) meaningful discrepancy" (p. 78). In determining a significant discrepancy between ability and achievement, they suggested that a first step in evaluating a difference score is to determine the likelihood that the difference could occur by chance (*reliable differences*). They noted that difference scores are prone to error and educators should be cautious about overreliance on these scores for classification of students. In their discussion of the second element of significant discrepancy, *atypical differences*, the authors stated that characteristics shared by most individuals are seldom considered significant and that only rare or atypical differences are useful for diagnosis and classification. The third element of significant discrepancy suggested is *meaningful differences*. While reliable differences and atypical differences are quantitative indicators of significant discrepancy, they do not necessarily indicate meaningful differences. Salvia and Good assert that "when individuals who manifest the discrepancy behave in a qualitatively different manner because of the discrepancy, that discrepancy is meaningful." On this basis, **preferred practice for multidisciplinary teams in determining significant discrepancy includes consideration of both**

quantitative and qualitative information, and determination that a discrepancy is significant only if it is reliable, unusual, and meaningful.

This section outlined the best practices which are applicable for multidisciplinary teams in pursuing assessment for a variety of purposes. Also, guidelines and preferred practices were delineated for assessing intellectual functioning and for determining significant discrepancy.

The following section, *Determining and Documenting Eligibility*, explains the specific eligibility criteria and assessment standards that multidisciplinary teams need to consider when using *learning disability* to describe a student's disability. The section provides guidelines to assist teams in operationalizing the definition of learning disability when using assessment activities to provide instructionally relevant information.

Multidisciplinary teams are encouraged to implement the process in a way that facilitates the identification of individuals with a learning disability and that guides intervention planning. The Office of Special Education Programs, U. S. Department of Education (1995), called for a definition and process of identification that is instructionally relevant and supports access to education for students by identifying (a) "what the child knows," and (b) "what accommodations and services the child needs to be able to learn to high standards" (p. 13). Although an operational definition should include an ordered, sequenced decision making process (Kavale, Forness & Lorsbach, 1991), the process also allows for informed professional judgment. In implementing the model, multidisciplinary teams are encouraged to use informed professional judgment as each of the components are implemented and to recognize the interactive aspects of the process for identifying a student as learning disabled.

Part IV — Determining and Documenting Eligibility

When a multidisciplinary team identifies a student as having a learning disability, certain minimal data-gathering standards, data documentation, and eligibility criteria should be satisfied. These standards and criteria are described for each eligibility component of learning disability: (1) unexpected and unexplained low achievement, (2) severe discrepancy between achievement and overall ability, (3) processing problem(s), (4) intraindividual differences, and (5) exclusions. *Eligibility criteria* are the standards for judging whether the information gathered by the multidisciplinary team through the full and individual evaluation supports the designation of the individual as learning disabled. *Assessment and documentation standards* are the expected data gathering procedures and information that the multidisciplinary team uses to judge whether the eligibility criteria for learning disability have been satisfied.

Unexpected and Unexplained Low Achievement

• *Eligibility Criteria*

(1) The student's current achievement in reading (basic skills or reading comprehension), writing, mathematics (basic skills or applications) or oral language (oral expression or listening comprehension) is below her or his expected achievement when the student's chronological age, grade placement, years in school, and overall ability levels are considered.

(2) The student's achievement problems or learning difficulties have existed over time and are not of a sudden, recent origin.

(3) The student's low achievement is not due to an inconsistent educational program or insufficient or inappropriate instruction.

(4) The student's learning problem has been resistant to reasonable general education interventions that were implemented with integrity, or general education interventions have been developed that are effective, but these interventions require substantial and sustained efforts that might be considered as special education and related services.

• *Assessment and Documentation Standards*

Most, if not all of the information needed by the multidisciplinary team for this eligibility component should have been gathered, and most likely documented, as part of the general education interventions.

The team should document that low achievement is clearly evident in one or more of the achievement areas and that the achievement or learning problem (a) has existed over a period of time and (b) is not the result of such factors as excessive, persistent absences from school; frequent moves between schools; or instruction that has not been appropriately matched to the student's needs and abilities. Information generated through a review of the student's educational records, attendance records, group achievement test results, teacher ratings or grades, interviews (student, teachers - past and present, parents, other service providers), or checklists completed by teachers and other service providers can be used to satisfy this requirement.

The team should also document that reasonable general education interventions have been implemented with integrity to address the achievement or learning problem, and that (a) the achievement or learning problem has been resistant to these efforts or (b) that the interventions have been effective but require ongoing, substantial efforts that may require special education or

related services. The team needs to describe the intervention efforts and the results of the interventions. Written intervention plans and progress monitoring data generated during the provision of general education interventions can be used for this documentation.

Achievement – Ability Discrepancy

• *Eligibility Criteria*

There is a severe discrepancy between the student's achievement in reading (basic skills or reading comprehension), writing, mathematics (basic skills or applications) or oral language (oral expression or listening comprehension) and overall ability. There are two approaches that can be used to determine a severe discrepancy.

APPROACH 1 —

(1) The team establishes an expected level of achievement by taking into account the student's chronological age, current grade placement, years in school, achievement history across content and skill areas as well as across time, group achievement test results, group cognitive ability tests, and other information that documents educationally relevant abilities. The team will need to agree and document that the student's overall ability is average or above, and that her or his achievement should be within normal limits. In using this option, the team does not have or require the results of an individually administered intelligence test. Overall ability is determined to be average or above average when all of the previously mentioned factors are considered and the student is expected to be able to demonstrate satisfactory performance and achievement in the general education curriculum. If there is any uncertainty about whether the student is achieving at a rate and level appropriate to her or his overall ability, the team should not use the designation of learning disability and consider further investigation by assessing the student's intellectual ability. If there is any suspicion that the student is above average in intellectual ability and expected to demonstrate average or above average achievement, the team should assess the student's intellectual ability.

And,

(2) Severe discrepancy exists if: (a) results of CBM probes (local or AEA norms available) or other achievement measures are at or below the 12th percentile; **or** (b) results of CBM probes are 2 or more times discrepant from same grade peers' median score when local or AEA norms are not available (see Appendix A); **or** (c) results from criterion-referenced measures indicate achievement that is at or below 50% of the student's present grade level expectancy. One or more of these criteria may be used to determine severe discrepancy.

Assessment and documentation standards that apply to both approaches are described after the approach two criteria description.

APPROACH 2 —

(1) The multidisciplinary team determines that the student has average or above average intellectual ability by using the results of an individually administered test of intelligence. Full scale scores of measures of intelligence are used in determining average or above intellectual

ability and in determining discrepancy. A Verbal Scale score or Performance Scale score (Wechsler Intelligence Scale for Children), or Sequential Processing Scale score or Simultaneous Processing Scale score (Kaufman Assessment Battery) is used in lieu of the full scale score only when the difference between the scales is both statistically significant and diagnostically meaningful. As an example, in order for a difference between the Verbal scale and Performance scale of Wechsler to be both statistically significant and diagnostically meaningful, the difference between the scales should be greater than 20 points. Otherwise, the full scale scores of measures of intellectual functioning are used to make this determination.

And,

(2) The multidisciplinary team concludes that the student's achievement in the area(s) of concern is severely discrepant from her or his intellectual ability. Severe discrepancy exists when the obtained scores in the achievement area(s) of concern are at least 1.5 standard deviations below the mean on the distribution of achievement scores predicted from obtained scores of intellectual functioning (regression procedure). If the technical data necessary to use the regression procedure is unavailable, the discrepancy needs to be at least two standard errors of measurement for the difference (See Appendix B). A decision about the existence or nonexistence of a severe discrepancy should not be made based only on a subtest score (i.e. reading comprehension on the Woodcock-Johnson). In either case, the team should follow the assessment and documentation standards by using at least two different assessment types to determine if there is convergent data to support a severe discrepancy determination or to rule out a severe discrepancy.

• *Assessment and Documentation Standards*

These assessment and documentation standards apply whether teams use approach one or two in determining severe discrepancy. In either approach, the determination that a severe achievement discrepancy exists should be based on converging data from at least **two** of the following direct assessment tools: (1) standardized, norm-referenced tests, (2) criterion-referenced tests, (3) curriculum-based assessments, (4) informal inventories. Additional supporting data from permanent products, systematic observations, interviews (student, parents, teachers, other service providers), anecdotal records, checklists, or rating scales must also be considered when documenting the magnitude of the discrepancy.

Combined or cluster scores need to be used in documenting the presence of a severe discrepancy in an achievement area, e.g., basic reading skills, reading comprehension, basic mathematics skills, mathematics applications. A single subtest score within any of the achievement areas (e.g., the Word Attack subtest of the *Woodcock Reading Mastery Test*, the Auditory Vocabulary subtest of the *Stanford Diagnostic Reading Test*, or the Letter-Word subtest of the *Woodcock-Johnson Psychoeducational Battery* in the case of basic reading skills) is insufficient for documenting the presence of a severe discrepancy in an achievement area.

If there is any uncertainty about whether the student is achieving at a rate and level appropriate to her or his overall ability, the team should not use the designation of learning disability and should consider further investigation by assessing the student's intellectual ability. If there is any suspicion that the student is above average in intellectual ability and should be expected to demonstrate average or above average achievement, the team should assess the student's intellectual ability as part of the full and individual evaluation before the designation of a learning disability is used.

Significant Difficulties in One or More of the Basic Psychological Processes

The Study Group maintains the importance of this component to the overall concept of learning disability, but was unable to establish a sufficient basis on which to develop specific eligibility criteria and assessment and documentation standards within the time frame provided for this effort. The Study Group believes that continued study and focus on this area by a similar group over the next 12 months would provide Iowa's multidisciplinary teams with the necessary information for systematically including this component in the identification process. Such an effort would benefit not only the area of learning disability, but the overall diagnostic and intervention process.

In the interim, the Study Group proposes that multidisciplinary teams gather and document observational data in the areas of attention (focusing, selecting, sustaining, shifting), memory (working, short-term, long-term), executive control or functioning (self-regulation; selecting, monitoring, evaluating, and modifying behavior and problem solving strategies; predicting outcomes or consequences), language (phonological awareness, syntax, semantics, pragmatics), and concept development (formation, classification, relationships) as appropriate to the student's behavior(s) of concern and in understanding the nature of the student's learning problem. The decision about the appropriateness of such data gathering is the responsibility of each multidisciplinary team using professional judgment and should be based on the value of such data to understanding the nature and extent of the learning problem, and to improving the development and delivery of practical and relevant interventions. An integrated set of observational data gathered from a variety of settings or environments under a variety of circumstances (small group instruction, one-on-one instruction, etc.) using both formal and informal procedures in these various "processing" areas can provide potentially useful information for intervention development. The information could benefit intervention development by (1) identifying deficits or weaknesses that need to be addressed by accommodations and that may need to be developed through specific instruction and (2) identifying strengths that can be used to overcome or compensate for deficits or weaknesses, and to facilitate instruction in areas of weakness.

Exclusionary Considerations

- *Eligibility Criteria*

(1) The severe achievement discrepancy is not a direct result of or maintained by:
  (a) a visual impairment or blindness
  (b) a hearing impairment or deafness
  (c) a motor or orthopedic impairment
  (d) a mental disability
  (e) a behavior disorder

(2) The multidisciplinary team has considered the student's environmental and economic circumstances and team members concur that the severe achievement discrepancy and the processing problem(s) are not a direct result of or sustained by environmental or economic disadvantage.

(3) Members of the multidisciplinary team concur that the severe achievement discrepancy and processing problem(s) are not a direct result of or sustained by cultural or language difference.

The team confirms and documents that the student's achievement and processing problems are not due to another disability. Most, if not all of the information (vision screening, hearing screening, motor screening, screening of general behavior) needed to meet this criteria should have been gathered during general education interventions and should be readily available to the team.

(1) At a minimum, there should be screening data which confirms that the student's hearing sensitivity is within normal limits. If the screening results indicate or team members suspect the possibility of impaired hearing, a complete assessment of hearing must be completed as part of the full and individual evaluation.
(2) At a minimum, there should be screening data which confirms that the student's vision is within normal limits after correction unless the impairment is temporary or is not educationally relevant. If the screening results indicate or team members suspect the possibility of impaired vision, a complete assessment of vision must be completed as part of the full and individual evaluation.
(3) At a minimum, team members need to concur and document that the student does not have a motor or orthopedic impairment that could be considered as causing or sustaining the student's achievement or learning problems. If the team has any questions or doubts about a student's motor abilities, an occupational or physical therapist should be consulted to determine an appropriate course of action.
(4) Team members need to consider whether the student's achievement and learning problems are the result of a mental disability. In addition, the team will need to rule out that the student is a slow learner. The data for such a conclusion is generated when the team considers whether a severe achievement discrepancy is present.
(5) At a minimum, team members need to consider the student's personal adjustment, interpersonal relationships and overall behavior, both in and outside of school. This should include consideration of the student's (a) social relationships with peers, siblings, parents, teacher, and other adults and (b) behavior in various settings including the home, the community, and different settings within the school. If there is any evidence that the student's achievement and learning problems may be related to behavior problems or the team has any doubts about the student's behavior status, a comprehensive and systematic assessment of behavior should be initiated.

The team confirms and documents that environmental and cultural factors are not responsible for the student's achievement and processing problems. Environmental and cultural or language factors should be considered in selecting assessment tools and procedures and in interpreting the results. The decision as to whether the student's achievement and processing problems are attributable to environmental or economic disadvantage, or cultural or linguistic difference must be a collective decision of the team.

An Assessment and Documentation Checklist for Learning Disability Eligibility is provided in Appendix C to assist multidisciplinary teams in implementing the identification process and to assist teams in determining if all components of the identification process have been addressed.

Conclusion

For a student experiencing learning problems who progresses through the full and individual evaluation phase, the multidisciplinary team should consider all the available data in:

(1) documenting whether the student has a disability that makes the student eligible for special education (eligibility component of entitlement);
(2) documenting whether the educational needs of the student require the provision of special education in order for the student to receive an appropriate education (need component of entitlement); and
(3) assisting in the development of a specific intervention plan that addresses the student's educational needs.

For some students, the intervention plan will be a continuation of general education intervention efforts. In these circumstances, the student either does not have a disability or has a disability but doesn't require special education in order to receive an appropriate education. For other students, the intervention plan will be the development and implementation of an individualized education program (IEP). In these circumstances, the student has a disability and requires special education in order to receive an appropriate education.

Part V — Entitlement

Decision

As the eligibility phase of the identification process comes to closure, an intervention plan will be developed and the multidisciplinary team will determine whether the individual is entitled to special education. Entitlement has two components: eligibility and need. The eligibility component requires the multidisciplinary team to answer the question of "whether an individual has an educational disability or not. It is a dichotomous decision. The determination of eligibility should not be equated with entitlement. The individual must be both eligible for and in need of special education in order to be entitled" (Iowa Directors of Special Education Association, January, 1996, p. 4).

> "The need component of an entitlement decision answers the question of whether an individual requires special education in order to receive a free appropriate public education . . . having a disability alone is not sufficient to confer special education entitlement on an individual. The individual must also need special education in order to be entitled. Educational need has been defined in many ways, but the minimum standard relates to an individual's ability to successfully pass from grade to grade. Empirically, an individual's needs can be defined operationally as a discrepancy between his, or her, current level of educational performance and the expectation of the individual's educational environment. Additionally, documentation of an individual's inability to benefit significantly from reasonable general education interventions or accommodations can also be used to demonstrate need for special education" (Iowa Directors of Special Education Association, January, 1996, p. 5).

If the multidisciplinary team finds that the individual is both eligible and entitled to special education services, the team would develop and implement an individualized education program (IEP) in cooperation with the individual and his or her family. If the team determines that the individual is eligible but is not in need of special education services, an intervention plan should still be developed and implemented (e.g., "Section 504 plan", I-PLAN) which delineates how the individual's needs are to be accommodated with the general education setting.

Intervention Planning

The assessment procedures that are used to answer questions about individual performance are embedded within a systematic problem solving process that includes the gathering of prescriptive assessment data. This approach has important implications with respect to the outcomes of assessment. It represents a movement toward intervention framework in which assessment results are directly linked to individualized intervention and services. In addition to providing data to determine the specific, specially-designed and direct intervention an individual needs, the assessment needs to consider the types and intensities of accommodations that enable the individual to succeed in the educational setting. These accommodations may vary across skill areas, type of services, or settings. Accommodations may also range from time-limited (short-term interventions) to ongoing, long-term efforts, vary across individuals, and may change during the individual's school experience.

Appendix A

Use of 2.0 Times Discrepant Criteria

The term "twice discrepant" has been used in the Curriculum-Based Measurement literature to describe significantly low performance in basic skills. It is also referred to as "less than half the performance of typical peers." To determine whether or not an individual's performance is twice discrepant from peers, two pieces of information are needed. First, an estimate of typical peer performance is necessary. To obtain this estimate, the best data source is local normative data. These data describe the underlying distribution of scores for students within a district and provide a statistically stable representation of peer performance. The 50th percentile score for the grade level and skill area should be selected to represent typical peer performance. An example is provided below:

CBM Local Norm Data
North Overshoe Schools

3rd Grade Winter CBM Reading Raw Score	Percentile Rank
97	53
96	52
95	51
94	50
93	49
92	49

In this case, the raw score of 94 words read correctly per minute would be selected as a representation of typical peer performance.

The second piece of information that is required is an estimate of the individual's performance on the same measurement materials as the norms were created on. In this case, the individual 3rd grader earned an oral reading fluency score of 37 words correct per minute on the 3rd grade winter passages. To determine how discrepant this individual's performance is the following formula was used:

$$\text{Number of Times Discrepant} = \frac{\text{Typical Peer Performance}}{\text{Individual Student's Performance}}$$

or

$$\frac{\text{94 Words per Minute}}{\text{37 Words per Minute}} = \text{2.54 Times Discrepant}$$

If the number of times discrepant is greater than 2.0, then the individual's performance is considered to be significantly discrepant from peer performance.

A **caution** should be attended to when using the 2.0 times discrepant criteria for identifying severe underachievement. For grades 3 through 6, the twice discrepant criteria has been documented to identify approximately 8 percent of students (Marston, Deno & Tindal, 1984). For grades 1 and 2, however, the 2.0 discrepancy criteria identifies a much larger percentage of students. Therefore, the 2.0 discrepancy criteria should be used cautiously and in conjunction with other methods of documenting severe underachievement for first and second grade students.

Marston, D., Deno, S. L., & Tindal, G. (1984). Eligibility for learning disabilities services: A direct and repeated measurement approach. Exceptional Children, 50, 554-555.

Appendix B

Standard Score Discrepancy Procedures

When the multidisciplinary team uses a direct comparison of intellectual functioning and achievement standard scores, the following standards should be followed:

(1) The obtained scores in the achievement area(s) of concern are more than one and a half standard deviation below the mean on the distribution of achievement scores predicted from obtained intellectual functioning scores. In establishing the difference of one and a half standard deviation, the effects of regression toward the mean and errors of measurement are applied (regression procedure).

(2) If the technical data necessary to account for the effects of regression are not available, the discrepancy between the obtained achievement and intellectual functioning standard scores must be at least two standard errors of measurement for the difference (standard error of difference procedure).

The regression procedure yields a distribution of regressed achievement scores that are predicted from levels of intellectual functioning. For any given level of intellectual functioning, the regression procedure yields an expected or predicted mean achievement score. By using the expected mean achievement score, a criterion level for defining severe discrepancy can be established based on the standard deviation of the predicted achievement distribution. The regression procedure accounts for measurement error since the procedure uses the correlation of the two measures (intellectual and achievement) which is a function of the reliability of each measure, the reliability of the difference scores, and the amount of overlap between the concepts (intelligence and achievement). Since the regression procedure involves a complex set of computations, the criterion values defining a severe discrepancy should be tabled if the procedure is to be used with practical ease. The criterion values of the regression tables that appeared in the 1981 version of *The Identification of Pupils with Learning Disabilities* (Iowa Department of Public Instruction, 1981) were approximately 1.55 standard deviations below the predicted or expected achievement values.

The standard error of difference procedure determines whether the difference between scores is of sufficient magnitude to be considered reliable, or whether the difference could have occurred by chance. By doubling the standard error of difference, a minimum confidence level of .95 is established; that is, we can be confident that, about 95 percent of the time, the difference is a true difference and not due to chance alone.

Appendix B
Standard Score Discrepancy Procedures (Continued)

To use the standard error of difference procedure, the following steps are necessary:

Step 1: Compute the standard error of measurement for the difference of the two tests (intelligence and achievement) using the following equation:

NOTE: In order to make meaningful comparisons, the standard error of measurement for both tests should be computed using standard scores with a mean of 100 and a standard deviation of 15.

SEm_{diff} = the square root of SEm_{IQ}^2 + SEm_{ACH}^2

(SEm_{IQ} = standard error of measurement of the intelligence test)

(SEm_{ACH} = standard error of measurement of the achievement test)

Or, when the standard deviations of the tests are the same, the following equation can be used:

SEm_{diff} = sd x the square root of 2 - r_{IQ} - r_{ACH}

(sd = the standard deviation)

(r_{IQ} = reliability coefficient of the intelligence test)

(r_{ACH} = reliability coefficient of the achievement test)

Step 2: Multiply the value computed in Step 1 by 2.

Step 3: Subtract the obtained achievement standard score from the obtained intelligence quotient.

Step 4: Compare the value (the difference) computed in Step 3 with the value in Step 2. A severe discrepancy is indicated if the difference obtained in Step 3 is equal to or greater than the value computed in Step 2.

For some achievement tests, the standard error of measurement may not be reported. However, if the reliability coefficient of the test is known, the standard error of measurement can be computed using the following equation:

SEm = sd x the square root of 1 - r

(sd = standard deviation)
(r = reliability coefficient)

Table 4 provides the criterion values (2 x SEm_{diff}) for various combinations of reliabilities.

Appendix B
Standard Score Discrepancy Procedures (Continued)

Table C -I: CRITERION VALUES FOR STANDARD ERROR OF DIFFERENCE PROCEDURE

The tabled criterion values ($2 \times SEm_{diff}$) for the standard error of the difference procedure were computed using the following equation:

$$CRT = (2) \quad (15\sqrt{2 - r_{IQ} - r_{ACH}})$$

The criterion values are reported as standard score units on a scale with a mean of 100 and a standard deviation of 15. To locate the criterion value for a pair of tests, locate the reliability of the achievement test along the left-side of the table and the reliability of the intelligence test along the top of the table. Follow the row of numbers to the right of the achievement test reliability until it intersects with the column of numbers under the intelligence test reliability. The number at the point of intersect is the criterion value. A severe discrepancy is indicated if the difference between the obtained achievement and intellectual functioning standard scores is equal to or greater than the tabled criterion value. If a test's reliability falls between two reliabilities provided in the table, use the lower reliability of the adjacent reliabilities to obtain the criterion value. For example, if an achievement test's reliability is .83, use the reliability of .82 in locating the criterion value.

RELIABILITY OF INTELLIGENCE TEST

	.98	.96	.94	.92	.90	.88	.86	.84	.82	.80
.98	6	7	8	10	11	11	12	13	14	14
.96	7	8	10	11	11	12	13	14	14	15
.94	8	10	11	11	12	13	14	14	15	15
.92	10	11	11	12	13	14	14	15	15	16
.90	11	11	12	13	14	14	15	15	16	17
.88	11	12	13	14	14	15	15	16	17	17
.86	12	13	14	14	15	15	16	17	17	17
.84	13	14	14	15	15	16	17	17	17	18
.82	14	14	15	15	16	17	17	17	18	19
.80	14	15	15	16	17	17	17	18	19	19
.78	15	15	16	17	17	17	18	19	19	20
.76	15	16	17	17	17	18	19	19	20	20
.74	16	17	17	17	18	19	19	20	20	20
.72	17	17	17	18	19	19	20	20	20	21
.70	17	17	18	19	19	20	20	20	21	21
.68	17	18	19	19	20	20	20	21	21	22
.66	18	19	19	20	20	20	21	21	22	22
.64	19	19	20	20	20	21	21	22	22	23
.62	19	20	20	20	21	21	22	22	23	23
.60	20	20	20	21	21	22	22	23	23	23
.58	20	20	21	21	22	22	23	23	23	24
.56	20	21	21	22	22	23	23	23	24	24
.54	21	21	22	22	23	23	23	24	24	24
.52	21	22	22	23	23	23	24	24	24	25
.50	22	22	23	23	23	24	24	24	25	25

Appendix C
Assessment Tools for Achievement Areas

Achievement Area — Basic Reading Skills

Norm-Referenced
Woodcock Reading Mastery Tests-Revised
Test of Early Reading Ability
Woodcock-Johnson Psychoeducational Battery–Achievement Subtests
Diagnostic Achievement Battery
Stanford Diagnostic Reading Test
Gates-MacGinitie Reading Tests
Gray Oral Reading Test-Revised

Criterion-Referenced
Brigance Diagnostic Inventory of Early Development
Brigance Diagnostic Inventory of Basic Skills
Brigance Diagnostic Inventory of Essential Skills
Standardized Reading Inventory

Curriculum-Based
Grade level word lists from basal reading series (words read correct in 1 minute)

Informal
Unit tests of basal reading series[1]
Informal reading inventories using basal reading series and other texts[2, 4]
Informal Reading Inventories (commercial)[3, 4]
Diagnostic teaching
Guided learning
Dynamic assessment
Classroom teacher interviews and reports
Checklists of skill development

Recommended resource: Miller, W. H. (1995). **Alternative assessment techniques for reading and writing.** West Nyack, NY: The Center for Applied Research in Education, Division of Simon & Schuster.

[1]Use to determine further assessment needs; do error analysis.

[2]When creating IRIs, select random samples from beginning, middle, and end of text; check readability of passages using established readability formula (i.e., Fry, Spache).

[3]Commercially-available reading inventories can yield results which are actually higher than the student may be able to perform in classroom texts and materials.

[4]Miscue analysis.

Appendix C
Assessment Tools for Achievement Areas (Continued)

Achievement Area — Reading Comprehension

Norm-Referenced
- Woodcock Reading Mastery Tests
- Test of Early Reading Ability
- Test of Reading Comprehension
- Gates-MacGinitie Reading Tests
- Woodcock-Johnson Psychoeducational Battery–Achievement Subtests
- Diagnostic Achievement Battery
- Stanford Diagnostic Reading Test
- Gray Oral Reading Test

Criterion-Referenced
- Brigance Diagnostic Inventory of Early Development
- Brigance Diagnostic Inventory of Basic Skills
- Brigance Diagnostic Inventory of Essential Skills
- Standardized Reading Inventory

Curriculum-Based
- Grade level passages from basal reading series (usually words read correct in 1 minute)

Informal
- Unit tests of basal reading series[1]
- Informal reading inventories using basal reading series and other texts[2]
- Informal Reading Inventories (commercial)[3]
- Diagnostic teaching
- Guided learning
- Dynamic assessment
- Classroom teacher interviews and reports
- Checklists of skill development

Recommended resource: Miller, W. H. (1995). **Alternative assessment techniques for reading and writing.** West Nyack, NY: The Center for Applied Research in Education, Division of Simon & Schuster.

[1]Use to determine further assessment needs; do error analysis.

[2]When creating IRIs, select random samples from beginning, middle, and end of text; check readability of passages using established readability formula (i.e., Fry, Spache). Include questions of comprehension that go beyond literal comprehension.

[3]Commercially-available reading inventories can yield results which are actually higher than the student may be able to perform in classroom texts and materials.

Appendix C
Assessment Tools for Achievement Areas (Continued)

Achievement Area — Written Expression

Norm-Referenced
Test of Written Language
Test of Written Spelling
Woodcock-Johnson Psychoeducational Battery–Achievement Subtests
Wechsler Individual Achievement Test
Test of Early Written Language

Criterion-Referenced
Brigance Diagnostic Inventory of Early Development
Brigance Diagnostic Inventory of Basic Skills
Brigance Diagnostic Inventory of Essential Skills

Curriculum-Based
Story starter with timed writing (usually 1 minute to think and 3 minutes to write; scoring usually based on words written correctly, words spelled correctly, and/or correct writing sequence)

Informal
Writing of dictated sentences, words, letters, numerals[1]
Timed and untimed writing samples[1, 2]
Writing checklists
Pretest of PENS (KU Learning Strategies)
Permanent product analysis – edited and unedited writing products from portfolio
Writing words from dictation – 100 words most frequently used in writing
Diagnostic teaching
Guided learning
Dynamic assessment
Classroom teacher interviews and reports
Checklists of skill development

Recommended resource: Miller, W. H. (1995). **Alternative assessment techniques for reading and writing.** West Nyack, NY: The Center for Applied Research in Education, Division of Simon & Schuster.

[1]Comparison of performance with the performance of random sample of peers.

[2]Use story starters and authentic writing experiences.

Appendix C
Assessment Tools for Achievement Areas (Continued)

Achievement Area — Basic Mathematics Skills

Norm-Referenced

KeyMath Diagnostic Arithmetic Test
Woodcock-Johnson Psychoeducational Battery–Achievement Subtests
Stanford Diagnostic Mathematics Test
Test of Mathematical Abilities
Test of Early Math Ability
Diagnostic Achievement Battery

Criterion-Referenced

Brigance Diagnostic Inventory of Early Development
Brigance Diagnostic Inventory of Basic Skills
Brigance Diagnostic Inventory of Essential Skills

Curriculum-Based

Timed math facts probes (usually 2 minutes)

Informal

Informal probes of basic facts, whole numbers, fractions, decimals, percentages, measurement[1, 2, 3]
Unit tests of basal series[2]

Diagnostic teaching
Guided learning
Dynamic assessment
Classroom teacher interviews and reports
Checklists of skill development

[1]Comparison of performance with the performance of random sample of peers.

[2]Analysis of errors.

[3]Problem solving using manipulatives may be more appropriate for younger children.

Appendix C
Assessment Tools for Achievement Areas (Continued)

Achievement Area — Mathematical Applications

Norm-Referenced
KeyMath Diagnostic Arithmetic Test
Woodcock-Johnson Psychoeducational Battery–Achievement Subtests
Test of Early Math Ability
Stanford Diagnostic Mathematics Test
Test of Mathematical Abilities
Diagnostic Achievement Battery

Criterion-Referenced
Brigance Diagnostic Inventory of Early Development
Brigance Diagnostic Inventory of Basic Skills
Brigance Diagnostic Inventory of Essential Skills

Curriculum-Based
Monitoring Basic Skills Progress (Fuchs, et al., Pro-Ed, 1997)

Informal
Informal probes of random sample of application problems from basal materials[1, 2]
Informal probes of random sample of authentic application problems[1, 2]
Unit tests of basal series[2]

[1]Comparison of performance with the performance of random sample of peers.

[2]Analysis of errors.

Appendix C
Assessment Tools for Achievement Areas (Continued)

Achievement Area — Language

Norm-Referenced

Test of Early Language Development
Clinical Evaluation of Language Fundamentals
Test of Language Development
Northwestern Syntax Screening Test
Test of Adolescent Language
Woodcock Language Proficiency Battery
Test of Language Competence-Expanded Edition
Test of Auditory Comprehension of Language
The Listening Test
Classroom Communication Skill Inventory

Criterion-Referenced & Informal

Wiig Criterion-Referenced Inventory of Language
Analytic Reading Inventory

Appendix D
Assessment and Documentation Checklist for Learning Disability Eligibility

UNEXPECTED AND UNEXPLAINED LOW ACHIEVEMENT

____ Is there documented evidence from general education interventions that the student's current achievement in reading, writing, mathematics, or oral language is below his/her expected achievement considering chronological age, grade placement, years in school, and overall ability?

____ Is there documentation that the low achievement has existed over time and is not of a sudden, recent origin?

____ Is there documentation to show that the student's low achievement is not due to an inconsistent educational program or insufficient or inappropriate instruction?

____ Has the team documented that the learning problem has been resistant to reasonable general education interventions that were implemented with integrity?

OR

____ Is there documentation to show that general education interventions have been developed that are effective, but require substantial and sustained efforts that might be considered as special education and related services?

SEVERE DISCREPANCY BETWEEN ACHIEVEMENT AND ABILITY

Approach 1 for Determining Severe Discrepancy

____ Has the team agreed and documented that the student's overall ability is in the average to above average range and that his/her achievement should be within normal limits based upon information from a variety of sources (i.e.review of the student records, attendance records, group achievement test results, teacher ratings or grades, interviews-student, teacher, parent, other services provider)?

____ If there is any uncertainty about whether the student's overall ability is in the average to above average range, has the team done further investigation by administering an IQ measure?

____ Has the team established and documented an expected level of achievement by considering the student's age, current grade placement, years in school, achievement history across content and skill areas as well as across time?

____ Has the team documented one or more of the following?
- ___ CBM probes or other achievement measures at or below the12th percentile?
- ___ Results of CBM probes 2 or more times discrepant from same grade peers' median score when local or AEA norms are not available?
- ___ Results from informal inventories or criterion-referenced measures indicate achievement that is at or below 50% the student's present grade level expectancy?

____ Has the team determined severe discrepancy using at least two direct assessment tools to establish convergent data?
- ___ standardized, norm-referenced tests
- ___ criterion-referenced tests
- ___ curriculum-based assessments
- ___ informal inventories

___Has the team used additional supporting data to document the magnitude of discrepancy?
- ___ permanent products
- ___ systematic observations
- ___ interviews (student, teachers, parents, other service providers)
- ___ anecdotal records
- ___ checklists
- ___ rating scales

Approach 2 for Determining Severe Discrepancy

___ Has the team determined that the student has average or above average intellectual ability by using the full scale scores of an individually administered test of intelligence?

___ Have subscale scores on individually administered tests of intelligence (Verbal and Performance of the Wechsler or Sequential Processing and Simultaneous Processing of the Kaufman Assessment Battery) been used for determining discrepancy only when the differences between the subscales are at least 18 points for the Wechsler and at least 19 points for the Kaufman?

___ Has the team documented a severe discrepancy between ability and achievement using the regression procedure?

or

___ If the technical data necessary to use the regression procedure is unavailable, has the team documented severe discrepancy by using the criteria of at least two standard errors of measurement for the difference?

___ Has the team used only combined or cluster scores in documenting the presence of a severe discrepancy in an achievement area?

___ Has the team determined severe discrepancy using at least two direct assessment tools to establish convergent data?
- ___ standardized, norm-referenced tests
- ___ criterion-referenced tests
- ___ curriculum-based assessments
- ___ informal inventories

___Has the team used additional supporting data to document the magnitude of the discrepancy?
- ___permanent products
- ___systematic observations
- ___interviews (student, teachers, parents, other service providers)
- ___anecdotal records
- ___checklists
- ___rating scales

SIGNIFICANT "PROCESSING" DIFFICULTIES

___ Is there documented evidence that the student demonstrates significant difficulties in one or more of the following basic psychological processes?
- ___ attention (focusing, selecting, sustaining, shifting)
- ___ memory (working, short-term, long-term)
- ___ executive control (self-regulation – selecting, monitoring, evaluating, and modifying behavior and problem solving strategies; predicting outcomes or consequences)
- ___ language (phonological awareness, syntax, semantics, pragmatics)
- ___ concept development (formation, classification, relationships)

EXCLUSIONARY CONSIDERATIONS

____ Is documentation provided that the severe discrepancy between ability and achievement and the difficulties in the basic psychological areas are not a direct result of or sustained by:
- ___ a visual impairment or blindness?
- ___ a hearing impairment or deafness?
- ___ a motor or orthopedic impairment?
- ___ a mental disability?
- ___ a behavior disorder?

____ Has the team considered the student's environmental and economic circumstances and concurred that the severe discrepancy and the processing problem(s) are not a direct result of or sustained by environment or economic disadvantage?

___ Do members of the team concur that the severe discrepancy and processing problem(s) are not a direct result of or sustained by cultural and language difference?

References

Adelman, H. S., & Taylor, L. (1993). *Learning problems and learning disabilities: Moving forward.* Pacific Grove, CA: Brooks/Cole Publishing Company.

Brinckerhoff, L. C., Shaw, S. F., & McGuire, J. M. (1993). *Promoting postsecondary education for students with learning disabilities: A handbook for practitioners.* Austin, TX: PRO-ED.

Chalfant, J. C. (1989). Diagnostic criteria for entry and exit from service: A national problem. In L. B. Silver (Ed.), *The assessment of learning disabilities: Preschool through adulthood* (pp. 1-25). Austin, TX: PRO-ED.

Evans, L. D. (1990). A conceptual overview of the regression discrepancy model for evaluating severe discrepancy between IQ and achievement scores. *Journal of learning disabilities, 23,* 406-412.

Feagans, L. V., Short, E. J., & Meltzer, L. J. (Eds.). (1991). *Subtypes of learning disabilities: Theoretical perspectives and research.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Hallahan, D.P., Kaufman, J.M., & Lloyd, J.W. (1985). *Introduction to learning disability.* Englewood, NJ: Prentice-Hall.

Hammill, D. D. (1990). On defining learning disabilities: An emerging consensus. *Journal of Learning Disabilities, 23,* 74-84.

Howell, K. W., Fox, S. L., & Morehead, M. K. (1993). *Curriculum-based evaluation: Teaching and decision making* (2nd ed.). Pacific Grove, CA: Brooks/Cole Publishing Company.

Interagency Committee on Learning Disabilities. (1987). *Learning disabilities: A report to the U.S. Congress.* Bethesda, MD: National Institutes of Health.

Iowa Directors of Special Education. (1996). *Special education assessment standards.* Des Moines, IA: Author.

Katz, L. G. (1984). The professional early childhood teacher. *Young Children, 5,* 3-10.

Kavale, K. A. (1987). Theoretical issues surrounding severe discrepancy. *Learning Disabilities Research, 3,* 12-20.

Kavale, K. A., & Forness, S. R. (1995). *The nature of learning disabilities: Critical elements of diagnosis and classification.* Mahwah, NJ: Lawrence Erlbaum Associates.

Kavale, K. A., Forness, S. R., & Bender, M. (1987). *Handbook of learning disabilities (Vol. 1 Dimensions and diagnosis).* Boston, MA: Little, Brown and Company.

Kavale, K.A., Forness, S. & Lorsbach, T. (1991). Definitions for definitions of learning disabilities. *Learning Disabilities Quarterly, 14,* 257-268.

Keogh, B. K. (1988). Learning disability: Diversity in search of order. In M. Wang, M. C. Reynolds, & H. J. Walberg (Eds.), *Handbook of special education: Research and practice (Vol. 2).* Elmsford, NY: Pergamon Press.

Lloyd, J. W., & Blandford, B. J. (1991). Assessment for instruction. In H. L. Swanson (Ed.), *Handbook on the assessment of learning disabilities: Theory, research, and practice* (pp. 45-58). Austin, TX: PRO-ED.

Lyon, G. R., Gray, D., Kavanagh, J., & Krasnegor, N. (Eds.). (1993). *Better understanding learning disabilities: New views from research and their implications for education and public policies.* Baltimore, MD: Paul H. Brookes Publishing Co.

Mather, N., & Roberts, R. (1994). Learning disabilities: A field in danger of extinction? *Learning Disabilities Research and Practice, 9,* 49-58.

Meltzer, L. J. (1994). Assessment of learning disabilities: The challenge of evaluating the cognitive strategies and processes underlying learning. In G. R. Lyon, *Frames of reference for the assessment of learning disabilities: New views on measurement issues.* Baltimore, MD: Paul H. Brookes Publishing Co.

Mercer, C. (1995). *Assessing learning disabilities.* Unpublished manuscript: Document prepared for LD Study Group, Iowa Department of Education.

Morison, P., White, S. H., & Feuer, M. J. (Eds.) (1996). *The use of IQ tests in special education decision making and planning.* Washington, DC: National Academy Press.

Myers, P. I., & Hammill, D. D. (1990). *Learning disabilities: Basic concepts, assessment practices, and instructional strategies.* Austin, TX: PRO-ED.

National Joint Committee on Learning Disabilities. (1994). *Collective perspectives on issues affecting learning disabilities.* Austin, TX: PRO-ED.

National Association of School Psychologists. (1994). *Assessment and eligibility in special education: An examination of policy and practice with proposals for change.* Alexandria, VA: National Association of State Directors of Special Education.

Reschly, D. M., & Grimes, J. P. (1995). Best practices in intellectual assessment. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology* (Vol.III). Washington, DC: National Association of School Psychologists.

Salvia, J., & Good, R. (1982). Significant discrepancies in the classification of pupils: Differentiating the concept. In J. T. Neisworth (Ed.), *Assessment in special education.* Rockville, MD: Aspen System.

Salvia, J., & Ysseldyke, J. (1991) *Assessment in special and remedial education* (5th edition). NY: Houghton Mifflin.

Shaw, S. F., Cullen, J. P., McGuire, J. M., & Brinckerhoff, L. C. (1995). Operationalizing a definition of learning disabilities. *Journal of Learning Disabilities, 28,* 586-597.

State of Iowa. *Iowa Administrative Code,* Education[281] Chapter 41—Special Education. Des Moines, IA: Author.

Swanson, H. L., & Keogh, B. K. (Eds.). (1989). *Theoretical and research issues.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Tomlin, P. S., & Mather, N. (1996). Back on track: A response to Shaw, Cullen, McGuire, and Brinderhoff. *Journal of Learning Disabilities, 29,* 220-224.

U.S. Office of Education. (1977). Definition and criteria for defining students as learning disabled. *Federal Register, 42 (250),* 65083. Washington, DC: U.S. Government Printing Office.

U.S. Department of Education. (1994). *Sixteenth annual report to Congress.* Washington, DC: Author.

U.S. Office of Special Education Programs. (1995). *Improving the Individuals with Disabilities Education Act: IDEA reauthorization.* Washington, DC: Author.

Wallace, G., Larsen, S., & Elksnin, L. (1992). *Educational assessment of learning problems: Testing for teaching* (2nd Ed.). Boston, MA: Allyn and Bacon.

Additional Readings

Learning disabilities.

Adelman, H. S. (1989). Prediction and prevention of learning disabilities: Current state of the art and future directions. In L. Bond and B. Compas (Eds.), *Primary prevention in the schools.* Newbury Park, CA: Sage.

Barsch, R. H. (1992). Perspectives on learning disabilities: The vectors of a new convergence. *Journal of Learning Disabilities, 25* [January], 6-16.

Bartolli, J. S. (1992). On defining learning and disability: Exploring the ecology. *Journal of Learning Disabilities, 23* [December], 628-631.

Bateman, B. (1992). Learning disabilities: The changing landscape. *Journal of Learning Disabilities, 25* [January], 29-36.

Carrier, J. G. (1986). *Learning disability: Social class and the construction of inequality in American education.* Westport, CT: Greenwood.

Chalfant, J. C. (1984). *Identifying learning disabled students: Guidelines for decision-making.* Burlington, VT: Northeast Regional Resource Center, Trinity College.

Coles, G. (1987). *The learning mystique: A critical look at "learning disabilities."* New York: Pantheon.

Feagans, L., Short, E. J., & Meltzer, L. J. (Eds.) (1991). *Subtypes of learning disabilities: Theoretical perspectives and research.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Kavanagh, J. F., and Truss, T. J. (Eds.) (1988). *Learning disabilities: Proceedings of the national conference.* Parkton, MD: York Press.

Levine, M. D. (1987). *Developmental variation and learning disorders.* Cambridge. MA: Educators Publishing Service, Inc.

Kavale, K., & Forness, S. R. (1995). *The nature of learning disabilities: Critical elements of diagnosis and classification.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Mather, N., & Roberts, R. (1994). Learning disabilities: A field in danger of extinction? *Learning Disabilities Research and Practice, 9,* 49-58.

Meltzer, L. (Ed.) (1993). *Strategy assessment and instruction for students with learning disabilities: From theory to practice.* Austin, TX: PRO-ED.

Mercer, C. D., King-Sears, P., & Mercer, A. R. (1990). Learning disabilities definitions and criteria used by state education departments. *Learning Disabilities Quarterly, 13,* 141-152.

Mercer, C. D., Hughes, C., & Mercer, A. R. (1985). Learning disabilities definitions used by state education departments. *Learning Disabilities Quarterly, 8,* 45-55.

Poplin, M. (1988). Holistic/constructivist principles of the teaching/learning process: Implications for the field of learning disabilities. *Journal of Learning Disabilities, 21,* 389-400.

Poplin, M. (1988). The reductionistic fallacy in learning disabilities: Replicating the past by reducing the present. *Journal of Learning Disabilities, 21,* 401-416.

Reid, D. K., Hresko, W. P., & Swanson, H. L. (1996). *Cognitive approaches to learning disabilities.* Austin, TX: PRO-ED.

Reid, D. K., Hresko, W. P., & Swanson, H. L. (1992). *A cognitive approach to learning disabilities* (2nd edition). Austin, TX: PRO-ED.

Swanson, H. L. (1988). Toward a metatheory of learning disabilities. *Journal of Learning Disabilities, 21*, 196-209.

Swanson, H. L. (Ed.) (1991). *Handbook on the assessment of learning disabilities: Theory, research, and practice*. Austin, TX: PRO-ED.

Swanson, H. L., & Keogh, B. (Eds.) (1989). *Learning disabilities: Theoretical and research issues*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Vaughn, S., & Bos, C. (Eds.) (1994). *Research issues in learning disabilities: Theory, methodology, assessment, and ethics*. New York: Springer-Verlag.

Wong, B. (Ed.) (1988). *Journal of Learning Disabilities, 22*(8), 468-520. [Presents a series of articles dealing with the issue of IQ in the identification of learning disabilities.]

Assessment.

Baker, S., & Hubbard, D. (1995). Assessment of written expression. In A. Thomas and J. Grimes (Eds.), *Best practices in school psychology III*. Washington, DC: National Association of School Psychologists.

Batsche, G. M., & Knoff, H. M. (1995). Linking assessment to intervention. In A. Thomas and J. Grimes (Eds.), *Best practices in school psychology III*. Washington, DC: National Association of School Psychologists.

Hintze, J. M., & Shapiro, E. S. (1995). Systematic observation of classroom behavior. In A. Thomas and J. Grimes (Eds.), *Best practices in school psychology III*. Washington, DC: National Association of School Psychologists.

Morrison, P., White, S. H., & Feuer, M. J. (Eds.) (1996). *The use of IQ tests in special education decision making and planning*. Washington, DC: National Academy Press.

Palinscar, A., Brown, A., & Campione, J. (1991). Dynamic assessment. In H. L. Swanson (Ed.), *Handbook on the assessment of learning disabilities: Theory, research, and practice* (pp. 75-94). Austin, TX: PRO-ED.

Roberts, M. L. (1995). Assessing environmental factors that impact student performance. In A. Thomas and J. Grimes (Eds.), *Best practices in school psychology III*. Washington, DC: National Association of School Psychologists.

Shapiro, E. S. (1989). *Academic skills problems: Direct assessment and intervention*. New York: Guilford Press.

Shinn, M. R. (Ed.) (1989). *Curriculum-based measurement: Assessing special children*. New York: The Guilford Press.

Shinn, M. R., & Hubbard, D. D. (1992). Curriculum-based measurement and problem-solving assessment: Basic procedures and outcomes. *Focus on Exceptional Children, 24*(5), 1-20.

Stone, B. J. (1995). Use of standardized assessments. In A. Thomas and J. Grimes (Eds.), *Best practices in school psychology III*. Washington, DC: National Association of School Psychologists.

Wallace, G., Larsen, S., & Elksnin, L. (1992). *Educational assessment of learning problems: Testing for teaching* (2nd ed.). Allyn.

Discrepancy.

Berk, R. A. (1984). An evaluation of procedures for computing an ability-achievement discrepancy score. *Journal of Learning Disabilities, 17*, 262-266.

Braden, J., & Weiss, L. (1988). Effects of simple difference versus regression discrepancy methods: An empirical study. *Journal of School Psychology, 26*, 133-142.

Clarizzio, H., & Phillips, S. (1989). Defining severe discrepancy in the determination of learning disabilities: A comparison of methods. *Journal of School Psychology, 27*, 383-391.

Cone, T. E., & Wilson, L. R. (1981). Quantifying a severe discrepancy: A critical analysis. *Learning Disability Quarterly, 4*, 359-371.

Evans, L. (1992). A comparison of the impact of regression and simple difference discrepancy models on identification rates. *Journal of School Psychology, 30*, 17-29.

Kavale, K. A. (1987). Theoretical issues surrounding severe discrepancy. *Learning Disabilities Research, 3*(1), 12-20.

Reynolds, C. R. (1985). Measuring the aptitude-achievement discrepancy in learning disability diagnosis. *Remedial and Special Education, 5*(3), 19-23.

Ross, R. P. (1995). Impact on psychologists of state guidelines for evaluating underachievement. *Learning Disability Quarterly, 18*, 43-56.

Salvia, J., & Good, R. (1982). Significant discrepancies in the classification of pupils: Differentiating the concept. In J. T. Neisworth (Ed.), *Assessment in special education*. Rockville, MD: Aspen Systems.

Sinclair, E., & Alexson, J. (1986). Learning disability discrepancy formulas: Similarities and differences among them. *Learning Disability Research, 1*, 112-118.

Other.

Adelman, H. S., & Taylor, L. (1994). *On understanding intervention in psychology and education*. Westport, CT: Praeger.

Farnham-Diggory, S. (1972). *Cognitive processes in education*. New York: Harper & Row.

Shinn, M. R., & Hubbard, D. D. (1992). Curriculum-based measurement and problem-solving assessment: Basic procedures and outcomes. *Focus on Exceptional Children, 24*(5), 1-20.